



Auditing orthopaedic audit

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ABSTRACT

INTRODUCTION Clinical audit plays an important role in the drive to improve the quality of patient care and thus forms a cornerstone of clinical governance. Assurance that the quality of patient care has improved requires completion of the audit cycle. A considerable sum of money and time has been spent establishing audit activity in the UK. Failure to close the loop undermines the effectiveness of the audit process and wastes resources.

PATIENTS AND METHODS We analysed the effectiveness of audit in trauma and orthopaedics at a local hospital by comparing audit projects completed over a 6-year period to criteria set out in the NHS National Audit and Governance report.

RESULTS Of the 25 audits performed since 1999, half were presented to the relevant parties and only 20% completed the audit cycle. Only two of these were audits against national standards and 28% were not based on any standards at all. Only a third of the audits led by junior doctors resulted in implementation of their action plan compared to 75% implementation for consultant-led and 67% for nurse-led audits.

CONCLUSIONS A remarkably large proportion of audits included in this analysis failed to meet accepted criteria for effective audit. Audits completed by junior doctors were found to be the least likely to complete the cycle. This may relate to the lack of continuity in modern medical training and little incentive to complete the cycle. Supervision by permanent medical staff, principally consultants, and involvement of the audit department may play the biggest role in improving implementation of change.

KEYWORDS

Medical audit – Orthopaedics

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Clinical audit was defined by the UK Government's White Paper¹ in 1989 as: 'the systematic critical analysis of the quality of medical care, including the procedures used for diagnosis and treatment, the use of resources and the resulting outcome and quality of life for the patient'. Clinical audit has become accepted as an essential activity within the NHS, playing an important role in the drive to improve the quality of patient care, and thus forms a cornerstone of clinical governance.² There have been many concerns raised about the effectiveness of clinical audit at improving the quality of patient care⁵ and at the loss of clinical activity due to compulsory audit meetings.⁴ As outlined by the National Institute for Health and Clinical Excellence,⁵ assurance that the quality of patient care has improved requires completion of the audit cycle and should follow this sequence: (i) observing a practice; (ii) setting a standard of practice; (iii) comparing the observed practice with the standard; (iv) implementing change; and (v) re-observing practice. Audits against national standards that must be complied with are classified as 'must do' audits

whereas 'should do' audits examine compliance with local standards or accepted best practice. A considerable sum of money and a large amount of clinical time has been spent establishing audit activity in the UK.^{4,6} Most departments undertake clinical audits but failure to close the loop undermines the effectiveness of the audit process and wastes resources.⁷ This paper sets out to analyse the effectiveness of audit in the trauma and orthopaedic department of a district general hospital over a 6-year period by comparing individual audit projects to criteria (Table 1) outlined by the NHS National Audit and Governance report and by the South Yorkshire Strategic Health Authority.^{5,8,9}

Patients and Methods

We retrospectively reviewed 25 audits that had been undertaken by the trauma and orthopaedic department between 1999 and 2005. Information was obtained from data retained within the clinical audit centre's database and

Table 1 Criteria used to assess audit projects

How was the audit prioritised?
Were there clear and explicitly stated objectives?
Was the audit based on published standards?
Had an appropriate literature search been performed?
What was the data collection method used?
Was there an appropriate sample size?
Was the data collection method relevant to the audit?
Were all relevant parties involved in the planning and presentation of the audit?
Did the relevant parties participate in the audit process itself?
Were the stated objectives met?
Was there suitable feedback to relevant individuals?
Was an action plan generated?
Was the action plan implemented?
Was the re-audit completed to ensure correct implementation?

from the original audit records. Each audit was assessed against the criteria outlined (Table 1) and entered onto an Excel spreadsheet.

Results

Of the 25 audits undertaken, the vast majority (23 audits in total) were classified as being of 'should do' priority (areas such as cost, high volume, clinical risk, *etc.*) whereas only 2 were of 'must do' priority (NICE guidelines, NCEPOD reports, national audits, *etc.*). Figure 1 demonstrates that a

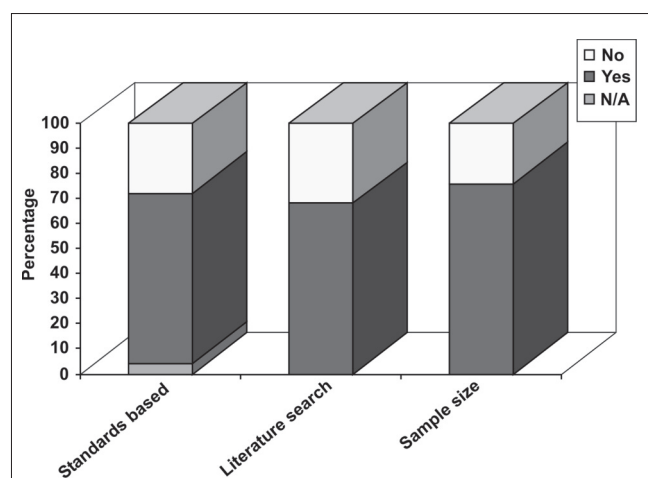


Figure 2 Percentage of audits that were standards based, performed an appropriate literature search or had an adequate sample size.

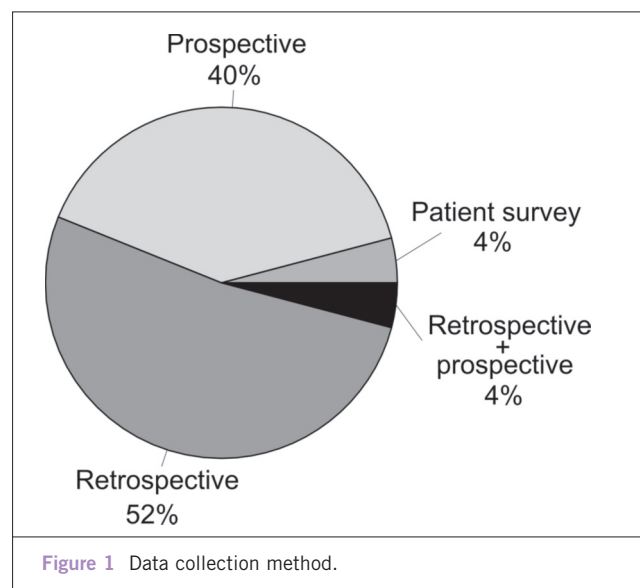


Figure 1 Data collection method.

small majority of audits collected data retrospectively, but a large number also performed a prospective audit. By their own admission, 12% of the audits utilised a data collection method that was inappropriate for the audit subject.

In 24 out of the 25 audits performed there was evidence of clear and explicitly stated objectives; however, once completed, 4 audits did not fulfil their original objectives. Figure 2 shows that 28% of the audits reviewed were not based on either local or national standards, 32% had not performed a literature search and 24% did not have an adequate sample size.

The majority of studies involved all relevant departments in the planning and participation of the audit but in only 52% of cases were results subsequently presented in departmental meetings (Fig. 3).

Once the audits had been completed, 84% generated an action plan and 80% demonstrated suitable feedback to the relevant individuals to implement change. This change, however, had only been implemented in 52% of the audits and the audit loop completed in only 20% (Fig. 4). Three of the audits are currently waiting to be re-audited.

When audits were consultant led, the resulting action plan was implemented in 75% and subsequently a re-audit was done in 43%. Nurse-led audits had their action plans implemented in 67%; of these, 67% subsequently underwent re-audit. For junior doctor-led audits, figures were 36% and 0%, respectively. For all audits, the rates of implementation and re-audit were better if the audit department was involved and worse if it was not. These figures exclude the three audits currently being re-audited.

Discussion

Approximately five audits per year were undertaken by this particular orthopaedic department. The majority of these

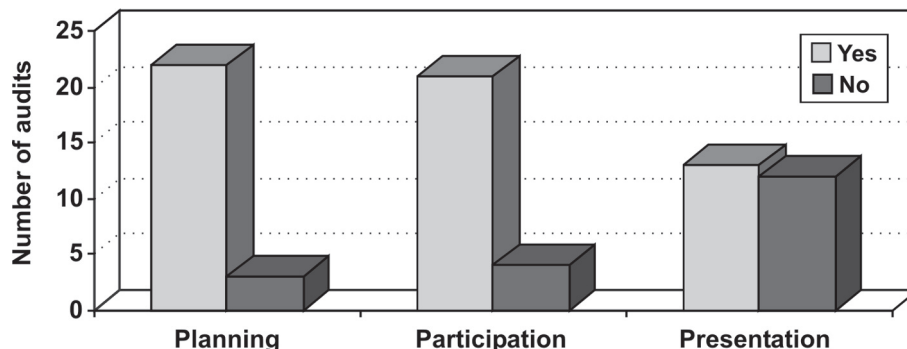


Figure 3 Relevant parties involved in the planning, participation and presentation of the audit project.

were of relatively low priority according to nationally set guidelines.⁹ It was surprising to find that over a quarter of these audits were not standards based and, therefore, offered little in the way of comparison to either local or nationally set standards. Of equal importance is the fact that nearly a quarter used a sample size too small to produce meaningful data and, therefore, reduced the credibility of the work performed; it brings the validity of their conclusions into question and impacts on their utility in implementing any change in practice. A surprising number, up to 50%, were not presented to the relevant departments. This may be related to difficulties in arranging multidisciplinary meetings; however, without a suitable forum for discussing the project, action plans are less likely to be implemented and the relevant individuals are unlikely to obtain appropriate feedback. These facts are demonstrated in our results with only half of the audits performed having an action plan implemented.

For any audit cycle to be completed, the subject must be re-audited. This did not occur in 72% of audits performed, with only 16% being re-audited and 12% currently awaiting

re-audit. Gnanalingham and colleagues¹⁰ found similar results when they audited all clinical audits performed by every department in a teaching hospital. They reported that 63% generated an action plan and only 24% of audits completed the cycle. They did not report on the seniority of staff involved in organising the studies. We found that if an audit was led by a named consultant or nurse there was a greater chance of the audit cycle being completed and change implemented. Surprisingly, involvement of the audit department did not guarantee implementation, feedback or re-audit. Junior doctors who undertake audit are the least likely to have their action plans implemented and, in the last 6 years, none have been re-audited. Several studies have demonstrated that, although junior doctors support the principle of audit, many feel that there is inadequate assistance and supervision.^{11,12} However, audit and research are highly regarded by specialist registrar selection committees and are, therefore, undertaken by junior doctors to fulfil this requirement. The rotational nature of junior medical posts may often lead to them moving on without closing the audit loop.

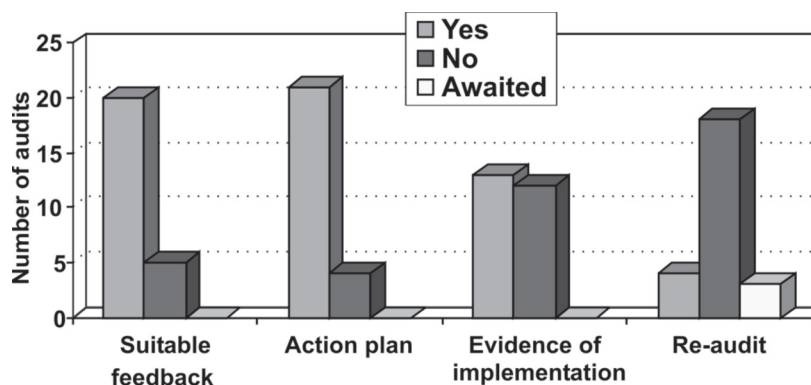


Figure 4 Outcome of audits performed.

Table 2 Recommendations to improve clinical audit

- Identify and complete projects of 'must do' importance preferentially
- Ensure the selected audit is standards based
- Wherever possible, maximise sample size
- Audits should be consultant led and involve the audit department
- Completed audit must be presented to the relevant department and individuals to enable change to be implemented
- Action plans must have designated individuals to implement each point and a suitable and attainable time-frame
- The audit loop must be closed at an appropriate time

Conclusions

Clinical audit in the UK was seen as a method to improve the quality and delivery of patient care. The audit process has been widely accepted in NHS practice and used by the UK Government as a method for ensuring and demonstrating that services provided are effective and efficient. Many authors have discussed whether any benefit gained would be justified by the scale of investment required and there is little evidence that it would improve patient management.^{3,4} Certainly, if any benefit is to be gained, the audit cycle must be completed. The low quality of audits, lack of action plans and low completion rates of audit cycles do not appear to be confined to the studied hospital or department.^{10,13–15} Proposals to ensure effective audit have been recommended⁵ and we wish to highlight the following simple principles (Table 2).

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